

# SI 30TER+

# Dimplex

**Montage- und  
Gebrauchsanweisung**

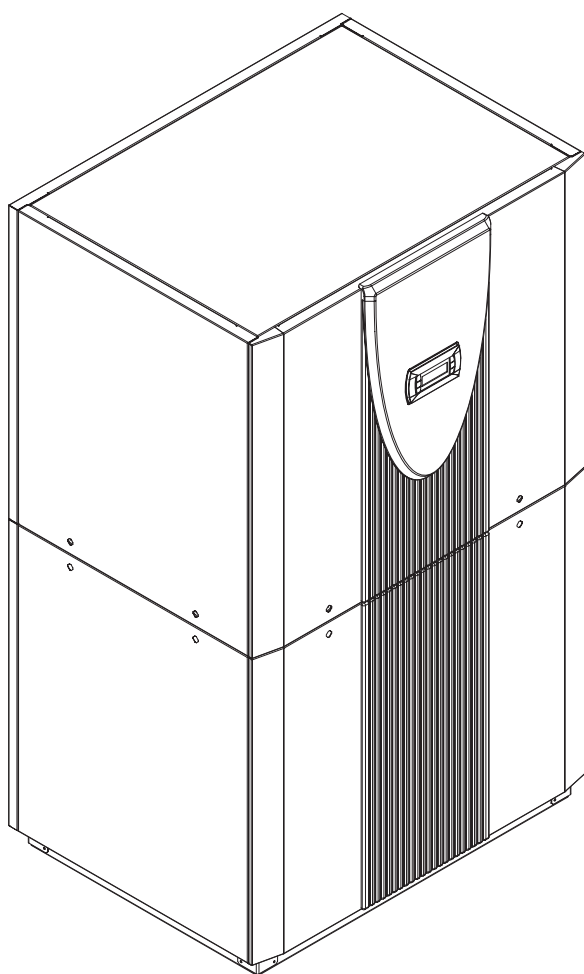
Deutsch

**Installation and  
Operating Instructions**

English

**Instructions d'installation  
et d'utilisation**

Français



**Reversible  
Sole/Wasser-  
Wärmepumpe für  
Innenaufstellung**

**Reversible  
Brine-to-Water  
Heat Pump for  
Indoor Installation**

**Pompe à chaleur  
eau glycolée-eau  
réversible pour  
installation  
intérieure**

# Table of contents

<b>1</b>	<b>Please Read Immediately .....</b>	<b>E-2</b>
1.1	Important Information.....	E-2
1.2	Intended Use .....	E-2
1.3	Legal Provisions and Guidelines .....	E-2
1.4	Energy-Efficient Use of the Heat Pump .....	E-2
<b>2</b>	<b>Purpose of the Heat Pump .....</b>	<b>E-3</b>
2.1	Application .....	E-3
2.2	Principle of Operation .....	E-3
<b>3</b>	<b>Baseline Unit.....</b>	<b>E-3</b>
<b>4</b>	<b>Accessories .....</b>	<b>E-4</b>
4.1	Connecting Flanges.....	E-4
<b>5</b>	<b>Transport.....</b>	<b>E-4</b>
<b>6</b>	<b>Installation .....</b>	<b>E-4</b>
6.1	General Information .....	E-4
6.2	Sound Emissions .....	E-4
<b>7</b>	<b>Mounting .....</b>	<b>E-4</b>
7.1	General Information .....	E-4
7.2	Heating and Hot Water Connection .....	E-5
7.3	Heat Source Connection.....	E-5
7.4	Electrical Connection .....	E-5
<b>8</b>	<b>Commissioning .....</b>	<b>E-6</b>
8.1	General Information .....	E-6
8.2	Preparatory Steps.....	E-6
8.3	Commissioning Procedure.....	E-6
<b>9</b>	<b>Care/Cleaning .....</b>	<b>E-7</b>
9.1	Care .....	E-7
9.2	Cleaning of Heating Side .....	E-7
9.3	Cleaning the Heat Source System.....	E-7
9.4	Maintenance .....	E-7
<b>10</b>	<b>Malfunctions / Troubleshooting.....</b>	<b>E-7</b>
<b>11</b>	<b>Decommissioning / Disposal .....</b>	<b>E-7</b>
<b>12</b>	<b>Device Information .....</b>	<b>E-8</b>
	<b>Anhang / Appendix / Annexes .....</b>	<b>A-I</b>

# 1 Please Read Immediately

## 1.1 Important Information

### **⚠ ATTENTION!**

Any work on the heat pump may only be performed by an authorised and qualified customer service.

### **⚠ ATTENTION!**

Devices with 6kg refrigerant or more must be leak-proof tested yearly according to ES842/2006.

### **⚠ ATTENTION!**

The heat pump must not be tilted more than max. 45° (in either direction).

### **⚠ ATTENTION!**

The transport securing devices must be removed prior to commissioning.

### **⚠ ATTENTION!**

The heating system must be flushed prior to connecting the heat pump.

### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heating water inlet of the heat pump in order to protect the condenser against the ingress of impurities.

### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heat source inlet of the heat pump in order to protect the evaporator against the ingress of impurities.

### **⚠ ATTENTION!**

The brine solution must contain at least 25 % of an antifreeze agent on a mono-ethylene glycol or propylene glycol basis and must be mixed prior to filling.

### **⚠ ATTENTION!**

The clockwise phase sequence must be observed when connecting the load lines (the heat pump will deliver no output and will be very noisy when the phase sequence is incorrect).

### **⚠ ATTENTION!**

Commissioning is to be effected in accordance with the installation and operating manual of the heat pump controller.

### **⚠ ATTENTION!**

To prevent the accumulation of deposits (e.g. rust) we recommend using a suitable corrosion protection system.

### **⚠ ATTENTION!**

Disconnect all electrical circuits from the power supply before opening the enclosure.

## 1.2 Intended Use

This device is only intended for use as specified by the manufacturer. Any other use beyond that intended by the manufacturer is prohibited. This requires the user to abide by the manufacturers product information. Please refrain from tampering with or altering the device.

## 1.3 Legal Provisions and Guidelines

This heat pump conforms to all relevant DIN/VDE regulations and EU directives. For details refer to the EC Declaration of Conformity in the appendix.

The electrical connection of the heat pump must be performed according to and conforming with all relevant VDE, EN and IEC standards. Beyond that, the connection requirements of the local utility companies have to be observed.

The heat pump is to be connected to the heat source system and the heating or cooling system in accordance with all applicable regulations.

### **⚠ ATTENTION!**

Any work on the heat pump may only be performed by an authorised and qualified customer service.

### **⚠ ATTENTION!**

Devices with 6kg refrigerant or more must be leak-proof tested yearly according to ES842/2006.

More information is available in the chapter Care / Cleaning.

## 1.4 Energy-Efficient Use of the Heat Pump

By operating this heat pump you contribute to the protection of our environment. The heating or cooling system and the heat source must be properly designed and dimensioned to ensure efficient operation. In particular, it is important to keep water flow temperatures as low as possible. All energy consumers connected should therefore be suitable for low flow temperatures. A 1 K higher heating water temperature corresponds to an increase in power consumption of approx. 2.5 %. Low-temperature heating systems with flow temperatures between 30 °C and 50 °C are optimally suited for energy-efficient operation.

## 2 Purpose of the Heat Pump

### 2.1 Application

The brine-to-water heat pump is to be used exclusively for the heating and cooling of heating water. It can be used in new or previously existing heating systems. Brine is used as the heat transfer medium in the heat source system. Borehole heat exchangers, ground heat collectors or similar systems can be used as the heat source.

### 2.2 Principle of Operation

#### Heating

The heat generated by the sun, wind and rain is stored in the ground. This heat stored in the ground is collected at low temperature by the brine circulating in the ground collector, ground coil or similar device.

A circulating pump then conveys the warmed brine to the evaporator of the heat pump. There, the heat is given off to the refrigerant in the refrigeration cycle. When so doing, the brine cools so that it can again take up heat energy in the brine circuit.

The refrigerant is drawn in by the electrically driven compressor, is compressed and "pumped" to a higher temperature level. The electrical power needed to run the compressor is not lost in this process, but most of the generated heat is transferred to the refrigerant.

Subsequently, the refrigerant is passed through the condenser where it transfers its heat energy to the heating water. Based on the thermostat setting, the heating water is thus heated to up to 60 °C.

#### Cooling

The functions of the evaporator and the liquifier are reversed in the "Cooling" operating mode.

The heating water gives up its heat to the refrigerant via the liquifier which is now functioning as an evaporator. The refrigerant is pumped to a higher temperature level using the compressor. Heat passes into the brine via the liquifier (evaporator in heating operation) and consequently into the ground.

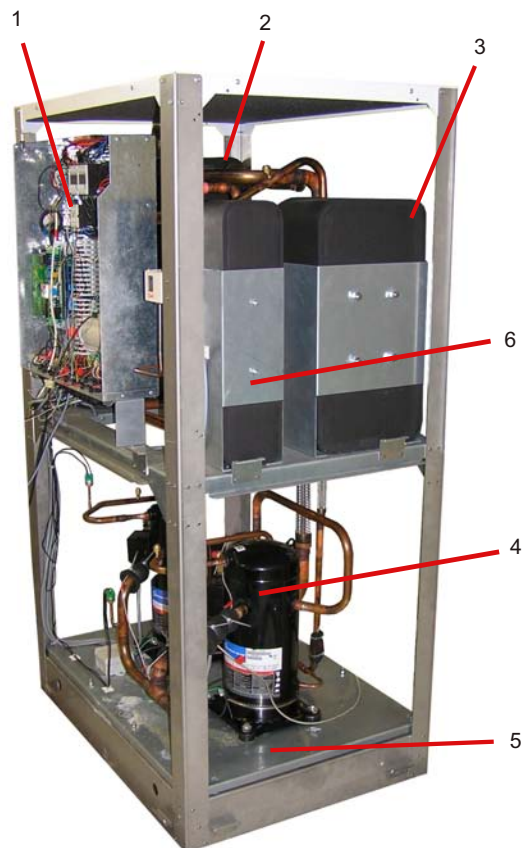
## 3 Baseline Unit

The basic device consists of a ready-to-use heat pump for indoor installation, complete with sheet metal casing, control panel and integrated controller. The refrigerant circuit is hermetically sealed. It contains the Kyoto protocol approved refrigerant R134a with a GWP value of 3260. It is CFC-free, does not deplete ozone and is non-flammable.

All components required for the operation of the heat pump are located in the control box. A sensor for the external wall temperature including mounting hardware as well as a strainer are supplied with the heat pump. The voltage supply for the load and control current must be provided by the customer.

The control wire of the brine pump (to be provided by the customer) is to be connected to the control box. When so doing, a motor protecting device is to be installed, if required.

The collector including the brine manifold must be provided by the customer.



- 1) Control
- 2) Evaporator
- 3) Condenser
- 4) Compressor
- 5) Transport securing devices
- 6) Hot water liquefier

## 4 Accessories

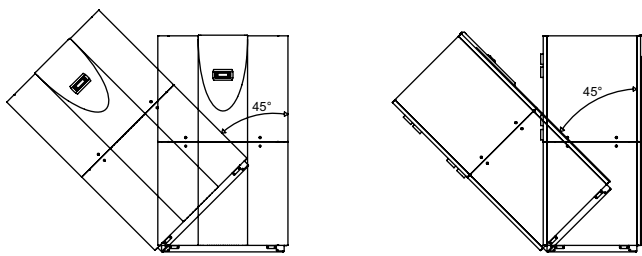
### 4.1 Connecting Flanges

The use of flat-sealing connecting flanges allows the unit, as an option, to be connected by means of flanges.

## 5 Transport

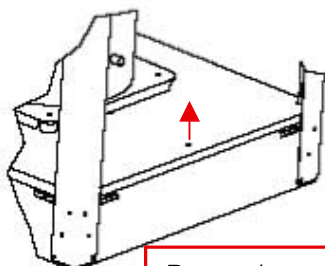
For the transport by means of a hand truck or boiler trolley, position the latter under the front end of the unit below the transport security device.

For transport on a level surface, the unit can be lifted from the rear or from the front by means of a lift truck or forklift. In this case, the transport securing device is not imperative.



#### **⚠ ATTENTION!**

The heat pump must not be tilted more than max. 45° (in either direction).



After the transport, the transport securing device is to be removed on either side at the bottom of the unit.

#### **⚠ ATTENTION!**

The transport securing device is to be removed prior to commissioning.

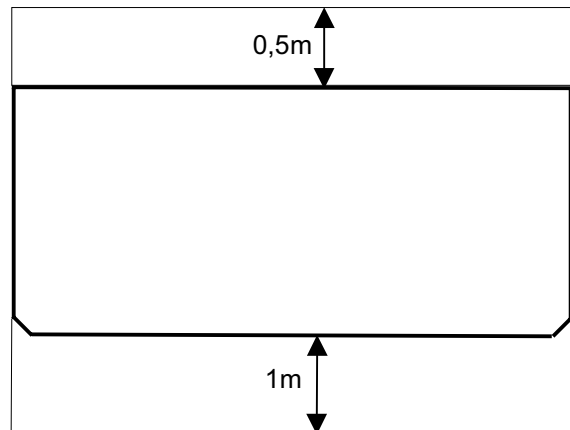
To remove the panelling, open the individual covers by unscrewing the respective turn-lock fasteners and then gently tilting the covers away from the device. Then lift them up out of the mountings.

## 6 Installation

### 6.1 General Information

As a rule, the unit must be installed indoors on a level, smooth and horizontal surface. The entire base frame should make full contact with the surface in order to ensure adequate sound insulation. Failing this, additional sound insulation measures may become necessary.

The heat pump should be installed to allow easy maintenance/service access. This is ensured if a clearance of approx. 1 m in front of the heat pump is maintained.



### 6.2 Sound Emissions

The heat pump offers silent operation due to efficient sound insulation. Any vibration transmission to the foundation or the heating system can be largely prevented by internal sound decoupling measures.

## 7 Mounting

### 7.1 General Information

The following connections need to be established on the heat pump:

- supply/return flow of the brine system
- supply/return flow of the heating system
- power supply

## 7.2 Heating and Hot Water Connection

### **⚠ ATTENTION!**

The heating system must be flushed prior to connecting the heat pump.

Before completing the heat pump connections on the heating water side, the heating installation must be flushed in order to remove any impurities that may be present, as well as residues of sealing material, and the like. Any accumulation of deposits in the condenser may result in a total failure of the heat pump.

### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heating water inlet of the heat pump in order to protect the condenser against the ingress of impurities.

Once the installation on the heating side has been completed, the heating system must be filled, de-aerated and pressure-tested.

### Heating water minimum flow rate

The heating water minimum flow rate through the heat pump must be assured in all operating states of the heating system. This can be accomplished, for example, by installing a differential pressure-free manifold or an overflow valve. The procedure for setting an overflow valve is described in the Chapter Commissioning.

### Frost protection for installations prone to frost

Provided the controller and heating circulating pumps are ready for operation, the frost protection feature of the controller is active. If the heat pump is taken out of service or in the event of a power failure, the system has to be drained. In heat pump installations where a power failure cannot be readily detected (holiday house), the heating circuit must contain a suitable antifreeze product.

## 7.3 Heat Source Connection

The following procedure must be observed when making the connection:

Connect the brine line to the flow and return pipe of the heat pump.

The hydraulic plumbing diagram must be observed here.

### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heat source inlet of the heat pump in order to protect the evaporator against the ingress of impurities.

In addition, a microbubble deaerator must be installed in the heat source system.

The brine liquid must be produced prior to charging the system. The brine concentration must be at least 25 %. Freeze protection down to -14°C can thus be ensured.

Only antifreeze products on the basis of mono-ethylene glycol or propylene glycol may be used.

The heat source system must be vented (de-aerated) and checked for leaks.

### **⚠ ATTENTION!**

The brine solution must contain at least 25 % of an antifreeze agent on a mono-ethylene glycol or propylene glycol basis and must be mixed prior to filling.

## 7.4 Electrical Connection

The following electrical connections must be established on the heat pump:

- Connection of the control wire to terminals X1: L/N/PE in the control box of the heat pump.
- Connection of the load wire to terminals X5: L1/L2/L3/PE in the control box of the heat pump.
- Connection of the brine pump (to be supplied by the customer) to terminal PE and pump contactor K5: 2/4/6 on the control panel of the HP.

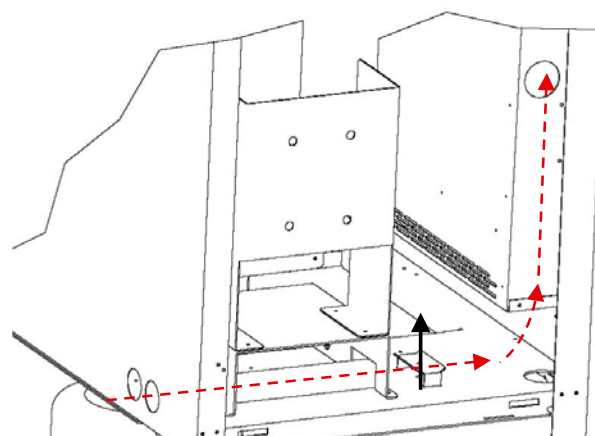
All electrical components required for the operation of the heat pump are located in the control box.

For more detailed instructions concerning the connection and functioning of the heat pump controller (e.g. the supplied external wall sensor) please refer to the enclosed operating manual of the controller.

An automatic circuit-breaker with simultaneous tripping of all external conductors is to be provided in the load power supply. The circuit-breaker must be an all-pole disconnect device with a contact gap of at least 3 mm. The same applies to any additional dis-able contactors that may be required, e.g. during shut-off periods imposed by the utility company. The required cross-sectional area of the conductors is to be selected according to the power consumption of the heat pump, the technical connection requirements of the relevant utility company and all applicable regulations. Power consumption data of the heat pump is provided in the product literature and on the nameplate. The terminals are designed for a max. conductor cross-section of 35 mm<sup>2</sup>.

### **⚠ ATTENTION!**

The clockwise phase sequence must be observed when connecting the load lines (the heat pump will deliver no output and will be very noisy when the phase sequence is incorrect).



The power cable must be run through the guide tubes, inserted into the side of the control box and secured by means of the strain relief.

## 8 Commissioning

### 8.1 General Information

To ensure proper commissioning it should be carried out by a customer service authorised by the manufacturer. This will lead, under certain circumstances, to an extension of the warranty period (cf. Warranty). Start-up should be carried out in heating operation.

### 8.2 Preparatory Steps

Prior to commissioning, the following items need to be checked:

- All connections of the heat pump must have been made as described in Chapter 7.
- The heat source system and the heating circuit must have been filled and checked.
- The strainer must have been fitted in the sole inlet of the heat pump.
- In the brine and heating circuits all valves that might impair the proper flow must be open.
- The settings of the heat pump controller must be adapted to the heating installation in accordance with the instructions contained in the controller's operating manual.

### 8.3 Commissioning Procedure

The start-up of the heat pump is effected via the heat pump controller.

#### **ATTENTION!**

Commissioning is to be effected in accordance with the installation and operating manual of the heat pump controller.

Any malfunctions occurring during operation are displayed on the heat pump controller and can be corrected as described in the operating manual of the heat pump controller.

## 9 Care/Cleaning

### 9.1 Care

The heat pump is maintenance-free. To prevent malfunctions due to sediments in the heat exchangers, care must be taken that no impurities can enter the heat source system and the heating installation. In the event that operating malfunctions due to contamination occur nevertheless, the system should be cleaned as described below.

### 9.2 Cleaning of Heating Side

#### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heating water inlet of the heat pump in order to protect the condenser against the ingress of impurities.

The ingress of oxygen into the heating water circuit, in particular if it contains steel components, may result in the formation of oxidation products (rust). These can enter the heating system via valves, circulating pumps or plastic tubing. It is therefore important - in particular with respect to the piping of underfloor heating systems - that the installation be executed in a diffusion-proof manner.

#### **⚠ ATTENTION!**

To prevent the accumulation of deposits (e.g. rust) we recommend using a suitable corrosion protection system.

In the case of severe contamination leading to a reduction in the performance of the condenser in the heat pump, the system must be cleaned by a heating technician.

Based on current knowledge, we recommend cleaning with a 5% phosphoric acid solution or, in the case that cleaning needs to be performed more frequently, with a 5% formic acid solution.

In either case, the cleaning fluid should be at room temperature. It is recommended that the heat exchanger be cleaned in the direction opposite to the normal flow direction.

To prevent acidic cleaning agents from entering the circuit of the heating installation we recommend that the flushing device be fitted directly to the supply and return lines of the condenser of the heat pump.

Thereafter the system must be thoroughly flushed using appropriate neutralising agents in order to prevent any damage caused by cleaning agent residues that may still be present in the system.

All acids must be used with great care, all relevant regulations of the employers' liability insurance associations must be adhered to.

If in doubt, contact the manufacturer of the chemicals!

### 9.3 Cleaning the Heat Source System

#### **⚠ ATTENTION!**

The supplied strainer must be fitted in the heat source inlet of the heat pump in order to protect the evaporator against the ingress of impurities.

The filter screen of the strainer should be cleaned one day after commissioning, thereafter every week. If no more contamination can be noticed any more, the strainer filter can be removed in order to reduce pressure losses.

### 9.4 Maintenance

Devices with a minimum of 3kg refrigerant, or hermetically sealed devices with a minimum of 6 kg refrigerant must be leak-proof tested yearly by the operator according to ES842/2006.

The leak-proof testing is to be documented and archived for a minimum of 5 years. The test is to be carried out by certified personnel only according to (EG) Nr. 1516/2007. The attached table can be used as a basis for the documentation.

## 10 Malfunctions / Troubleshooting

This heat pump is a quality product and designed for trouble- and maintenance-free operation. In the event that a malfunction occurs nevertheless, it will be indicated on the display of the heat pump controller. Simply consult the Malfunctions and Troubleshooting table contained in the in-stallation and operating manual of the heat pump controller (manager).

If you cannot correct the malfunction yourself, please contact the after-sales service agent in charge.

#### **⚠ ATTENTION!**

All work on the heat pump may only be performed by an authorised and qualified after-sales service.

#### **⚠ ATTENTION!**

Disconnect all electrical circuits from the power supply before opening the enclosure.

## 11 Decommissioning / Disposal

Before removing the heat pump, disconnect the unit from the power source and close all valves.

Environment-relevant requirements regarding the recovery, recycling and disposal of service fluids and components in accordance with all relevant standards must be adhered to. Particular attention must hereby be paid to the proper disposal of refrigerants and refrigeration oils.



## 12 Device Information

1	Type and order code				SI 30TER+		
2	Design						
2.1	Model				Reversible with additional heat exchanger		
2.2	Degree of protection according to EN 60 529				IP 21		
2.3	Installation location				Indoors		
3	Performance data						
3.1	Operating temperature limits: <sup>1</sup>						
	Heating water flow	°C			Up to 55±1		
	Cooling, flow	°C			+7 to +20		
	Brine (heat source, heating)	°C			-5 to +25		
	Brine (heat sink, cooling)	°C			+5 to +30		
	Antifreeze					Monoethylene glycol	
	Minimum brine concentration (-13 °C freezing temperature)					25%	
3.2	Temperature spread of heating water (flow/return flow) at B0 / W35	K			5		
3.3	Heat output / COP <sup>2</sup>	at B-5 / W55 <sup>3</sup>	kW / ---	4	22,0 / 2,0		
			kW / ---	5	11,1 / 2,1		
		at B0 / W55 <sup>3</sup>	kW / ---	4	24,9 / 2,2		
			kW / ---	5	12,8 / 2,3		
		at B0 / W35 <sup>3</sup>	kW / ---	4	28,6 / 3,8		
			kW / ---	5	15,2 / 4,2		
	3.4	Cooling capacity / COP <sup>6</sup>	at B20 / W10 <sup>3</sup>	kW / ---	4	35,3 / 5,3	
				kW / ---	5	18,2 / 6,1	
		at B20 / W7 <sup>3</sup>	kW / ---	4	44,6 / 6,2		
			kW / ---	5	23,6 / 7,5		
		at B10 / W7 <sup>3</sup>	kW / ---	5	21,0 / 8,6		
			kW / ---	4	46,7 / 7,4		
		at B10 / W18 <sup>3</sup>	kW / ---	4	25,4 / 9,5		
			kW / ---	5			
3.5	Sound power level	dB(A)			62		
3.6	Sound pressure level at a distance of 1 m	db(A)			46		
3.7	Heating water flow with an internal pressure differential of m³/h / Pa					4,7 / 2200	
3.8	Brine throughput with an internal pressure differential (heat source) of	m³/h / Pa			6,7 / 5300		
3.9	Flow rate of additional heat exchanger with an internal pressure differential	m³/h / Pa			4,0 / 20000		
3.10	Refrigerant; total filling weight	type / kg			R404A / 8,1		
3.11	Lubricant; total filling weight	type / litres			Polyolester / 3,7		
4	Dimensions, connections and weight						
4.1	Device dimensions without connections <sup>7</sup>	H x W x L mm			1660 x 1000 x 775		
4.2	Device connections to heating system	Inch			G 1 1/2" internal/external		
4.3	Device connections to heat source	Inch			G 2" internal/external		
4.4	Device connections for hot water	Inch			G 1" internal/external		
4.5	Weight of the transportable unit(s) incl. packing	kg			385		
5	Electrical Connection						
5.1	Nominal voltage; fuse protection	V / A			400 / 20		
5.2	Nominal power consumption B0 W35 <sup>3 4</sup>	kW			7,53		
5.3	Starting current with soft starter	A			26		
5.4	Nominal current B0 W35 / cos φ <sup>4</sup>	A / ---			13,59 / 0,8		
5.5	max. power consumption of compressor protection (per compressor)	W			70		
6	Complies with the European safety regulations				8		
7	Additional model features						
7.1	Water in device protected against freezing <sup>9</sup>					Yes	
7.2	Performance levels					2	
7.3	Controller internal/external					Internal	

1. See output curves

2. The coefficients of performance for parallel hot water preparation are also achieved via additional heat exchangers.

3. This data indicates the size and capacity of the system. For an analysis of the economic and energy efficiency of the system, both the bivalence point and the regulation should also be taken into consideration. The specified values, e.g. B10 / W55, have the following meaning: Heat source temperature 10 °C and heating water flow temperature 55 °C.

4. Operation with 2 compressors

5. Operation with 1 compressor

6. Considerably higher coefficients of performance are achieved by means of cooling operation and waste heat recovery via additional heat exchangers.

7. Note that additional space is required for pipe connections, operation and maintenance.

8. See CE declaration of conformity

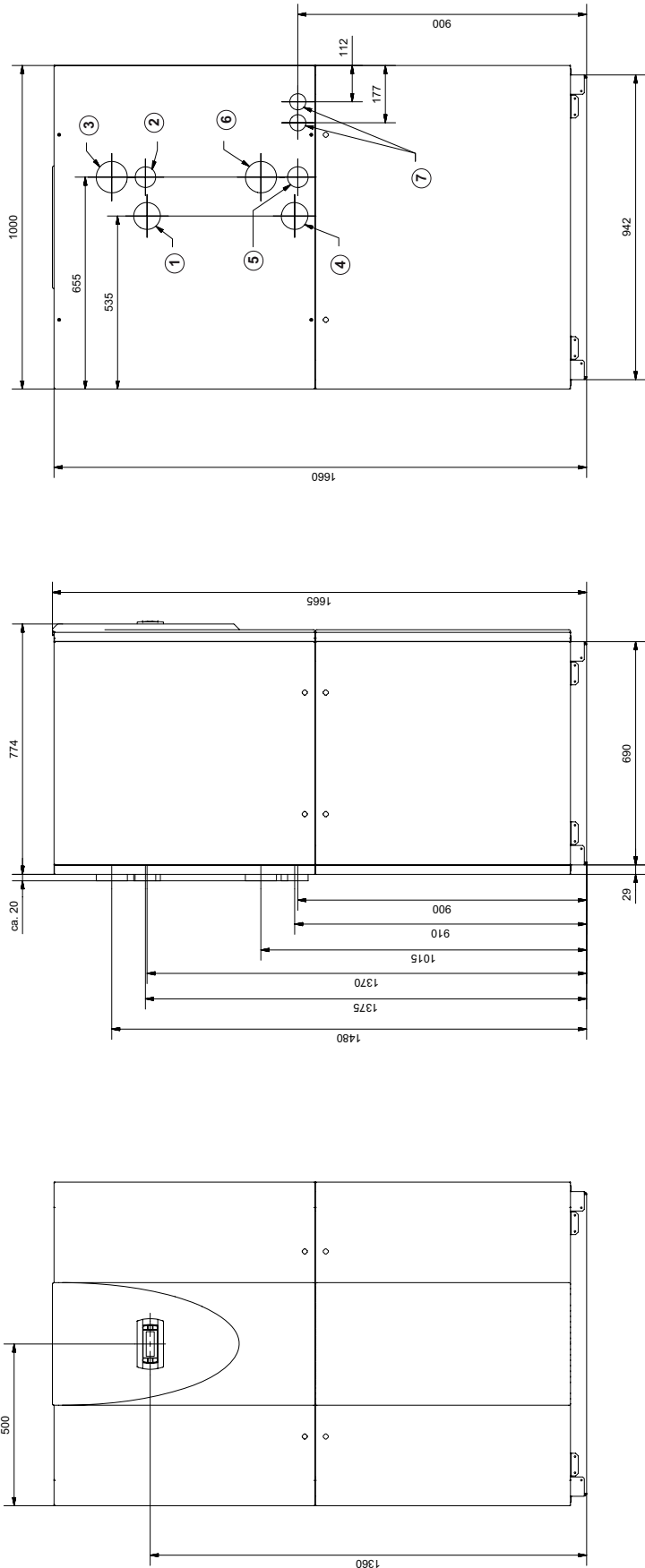
9. The heat circulating pump and the heat pump controller must always be ready for operation.

---

## Anhang / Appendix / Annexes

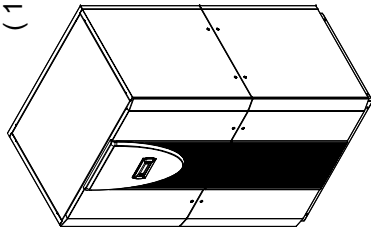
<b>1</b>	<b>Maßbild / Dimension drawing / Schéma coté .....</b>	<b>A-II</b>
<b>2</b>	<b>Diagramme / Schematics / Diagrammes .....</b>	<b>A-III</b>
2.1	Heizbetrieb / Heating operation / Mode chauffage .....	A-III
2.2	Kühlbetrieb / Cooling operation / Mode refroidissement .....	A-IV
<b>3</b>	<b>Stromlaufpläne / Wiring diagrams / Schémas électriques .....</b>	<b>A-V</b>
3.1	Steuerung Standardregler / Control via the standard controller / Commande régulateur standard .....	A-V
3.2	Steuerung Kühlregler / Control via the cooling controller / Commande régulateur refroidissement .....	A-VI
3.3	Last / Load / Charge .....	A-VII
3.4	Anschlussplan Standardregler / Terminal diagram for standard controller / Schéma de branchement du régulateur standard .....	A-VIII
3.5	Anschlussplan Kühlregler / Terminal diagram for cooling controller / Schéma de branchement du régulateur de refroidissement .....	A-IX
3.6	Legende / Legend / Légende .....	A-X
<b>4</b>	<b>Hydraulisches Prinzipschema / Hydraulic block diagrams / Schéma hydraulique .....</b>	<b>A-XII</b>
4.1	Darstellung / Schematic view / Représentation schématique .....	A-XII
4.2	Legende / Legend / Légende .....	A-XIII
<b>5</b>	<b>Konformitätserklärung / Declaration of Conformity / Déclaration de conformité .....</b>	<b>A-XIV</b>
<b>6</b>	<b>Wartungsarbeiten / Maintenance work / Opérations de maintenance .....</b>	<b>A-XV</b>

1 Maßbild / Dimension drawing / Schéma coté



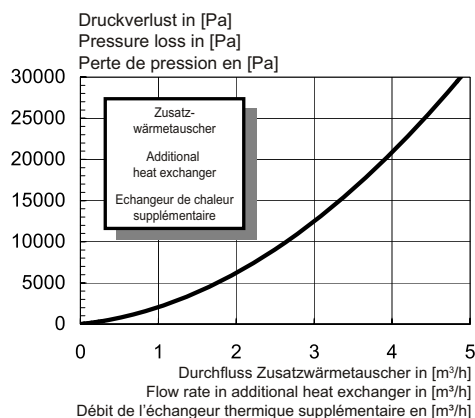
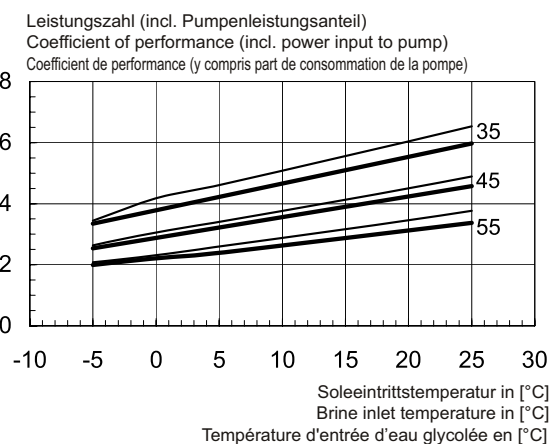
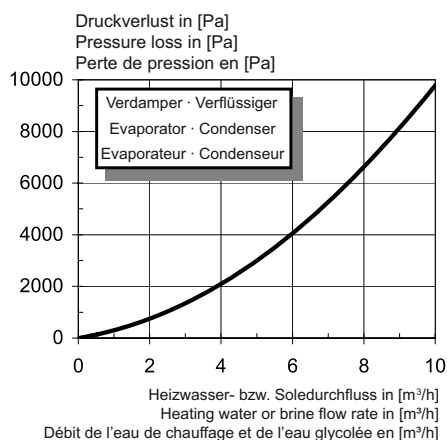
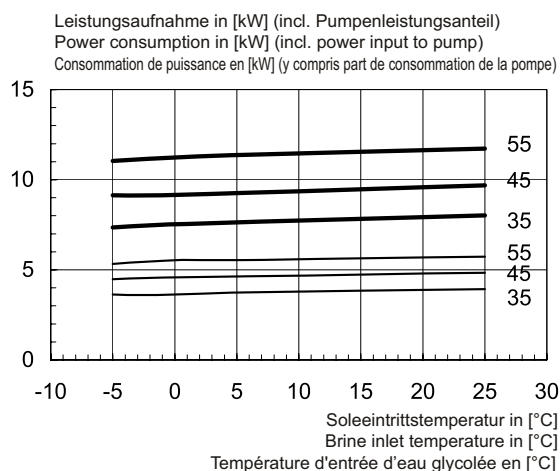
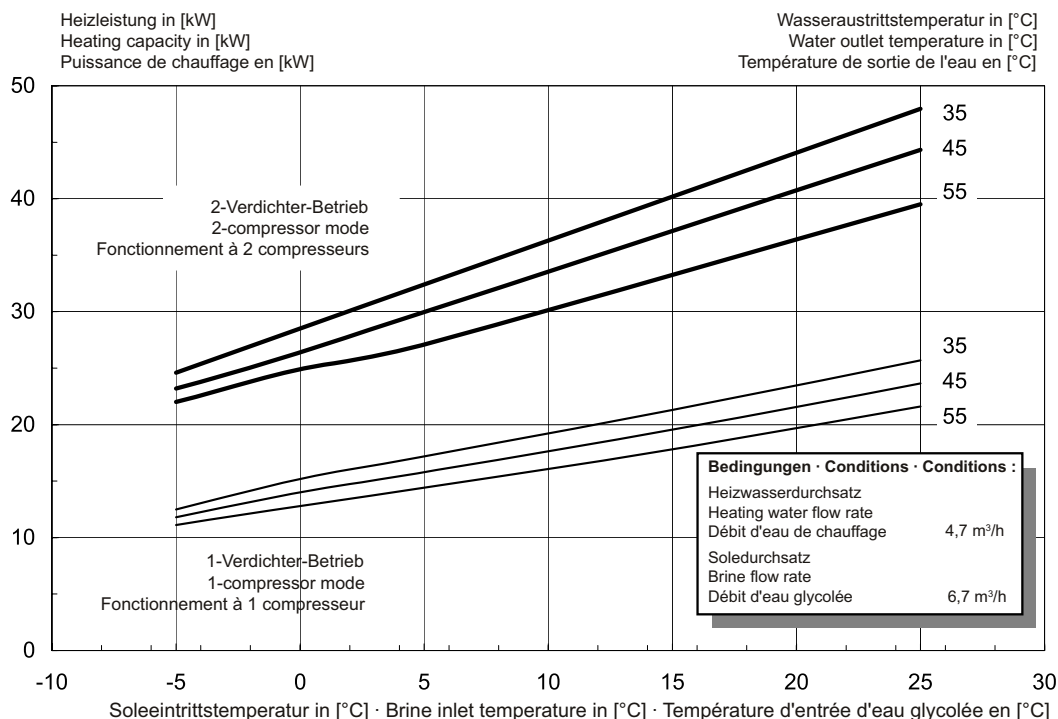
①	1 1/2" Innen-/ Außengewinde Heizungsrücklauf Eingang in WP	1 1/2" internal / external thread Heating water return Heat pump inlet	Filetage int./ext. 1 1/2" Retour eau de chauffage Entrée dans la PAC
②	1" Innen-/ Außengewinde Warmwasserrücklauf Eingang in WP	1" internal/external thread Hot water return flow Inlet in HP	Filetage intérieur/extérieur 1" Retour circuit d'eau chaude Entrée dans PAC
③	2" Innen-/ Außengewinde Wärmequelle Eingang in WP	2" internal / external thread Heat source Heat pump inlet	Filetage int./ext. 2" Source de chaleur Entrée dans la PAC
④	1 1/2" Innen-/ Außengewinde Heizungsvorlauf Ausgang aus WP	1 1/2" internal / external thread Heating water supply Heat pump outlet	Filetage int./ext. 1 1/2" Aller eau de chauffage Sortie de la PAC
⑤	1" Innen-/ Außengewinde Warmwasservorlauf Ausgang aus WP	1" internal/external thread Hot water flow Outlet from HP	filetage intérieur/extérieur 1" Départ circuit d'eau chaude Sortie de PAC
⑥	2" Innen-/ Außengewinde Wärmequelle Ausgang aus WP	2" internal / external thread Heat source Heat pump outlet	Filetage int./ext. 2" Source de chaleur Sortie de la PAC
⑦	Elektroleitungen	Electric lines	Lignes électriques

( 1 : 20 )

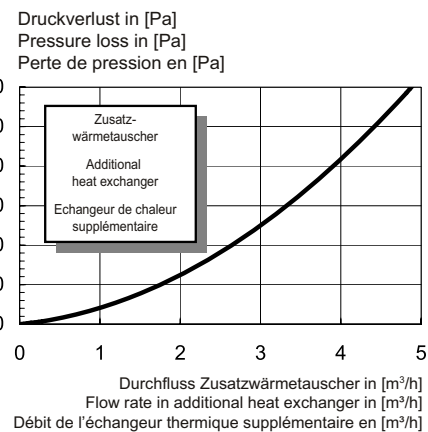
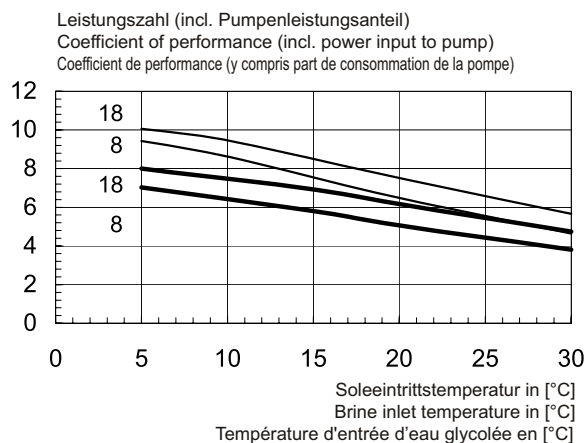
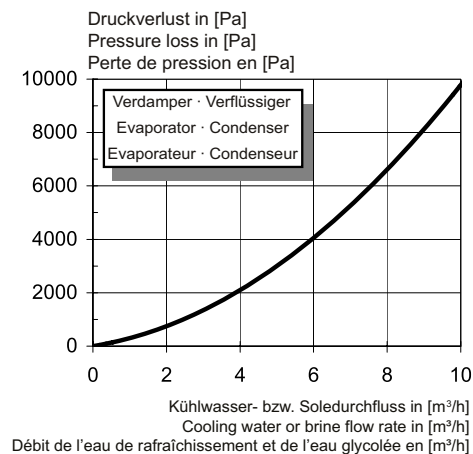
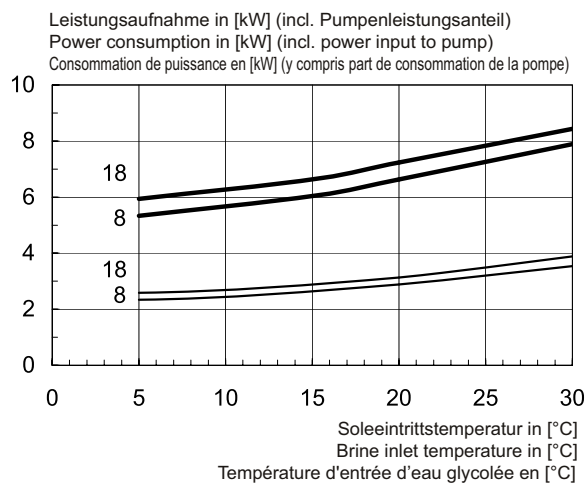
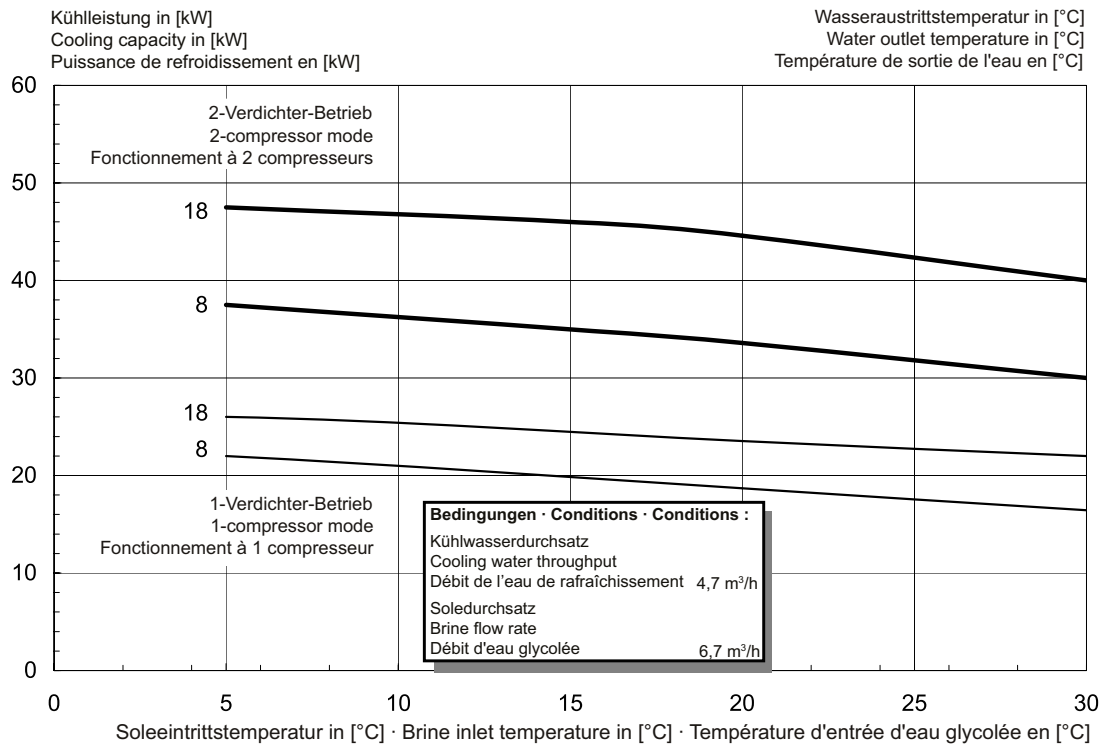


## 2 Diagramme / Schematics / Diagrammes

### 2.1 Heizbetrieb / Heating operation / Mode chauffage

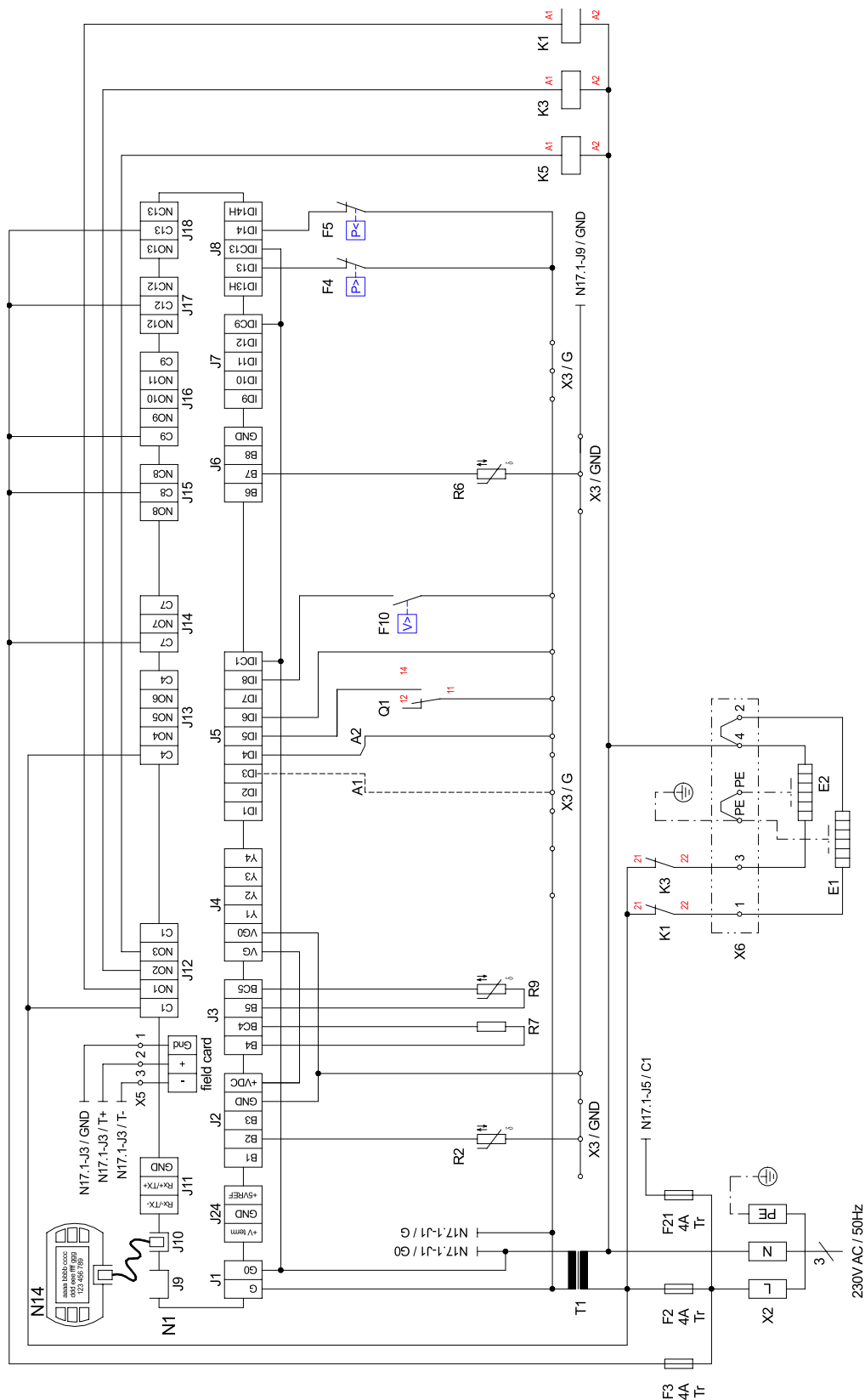


## 2.2 Kühlbetrieb / Cooling operation / Mode refroidissement



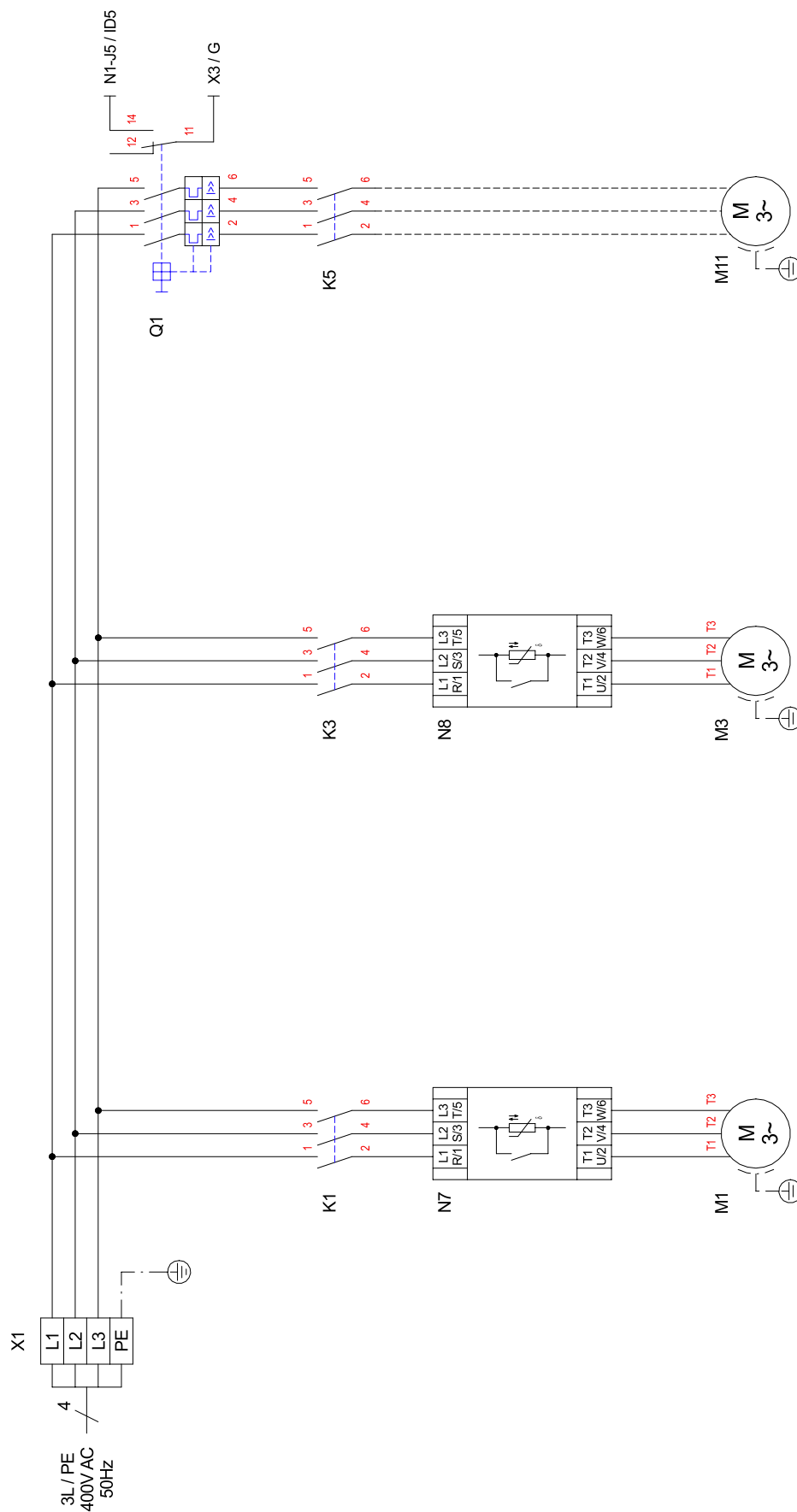
## 3 Stromlaufpläne / Wiring diagrams / Schémas électriques

### 3.1 Steuerung Standardregler / Control via the standard controller / Commande régulateur standard



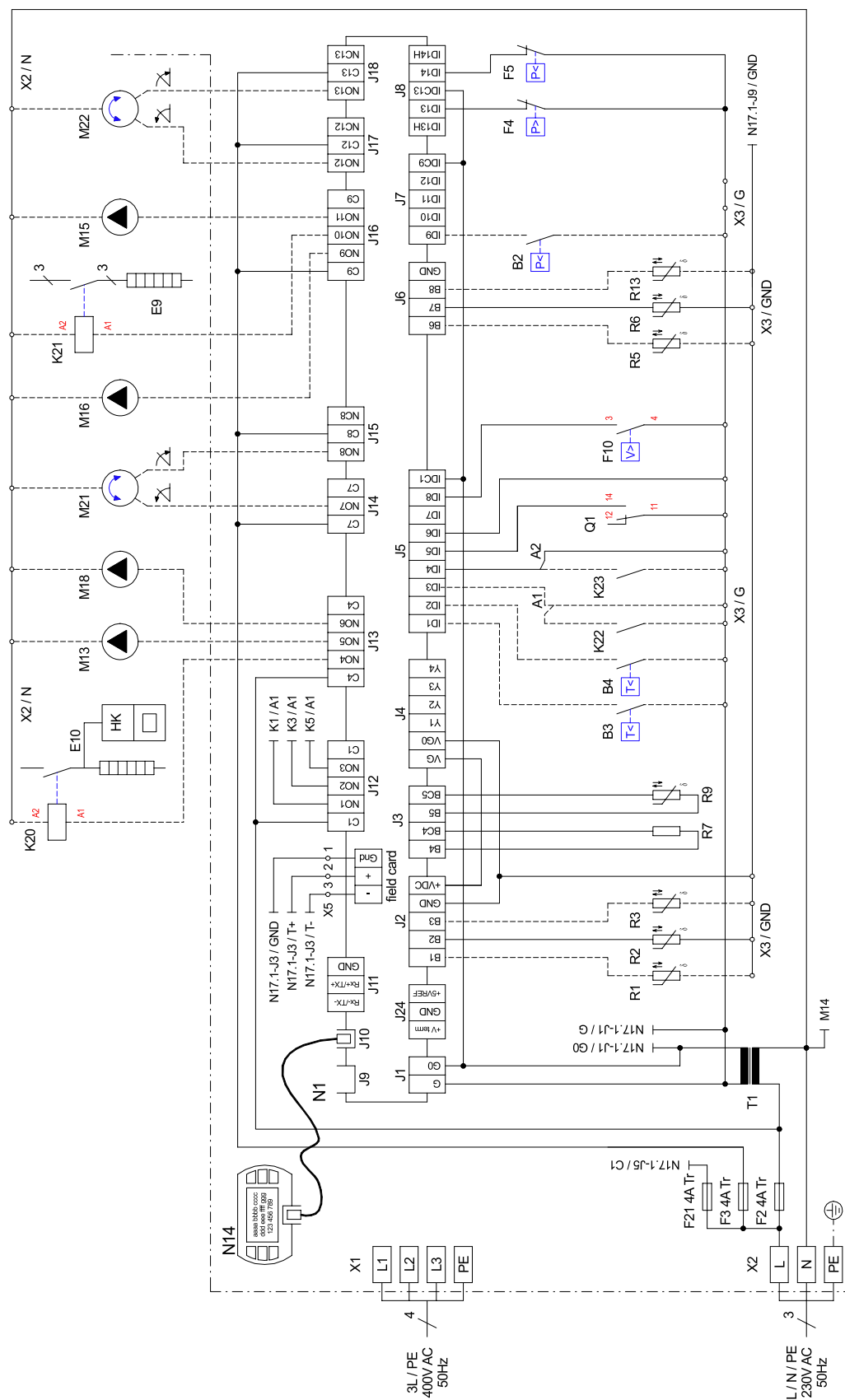


### 3.3 Last / Load / Charge

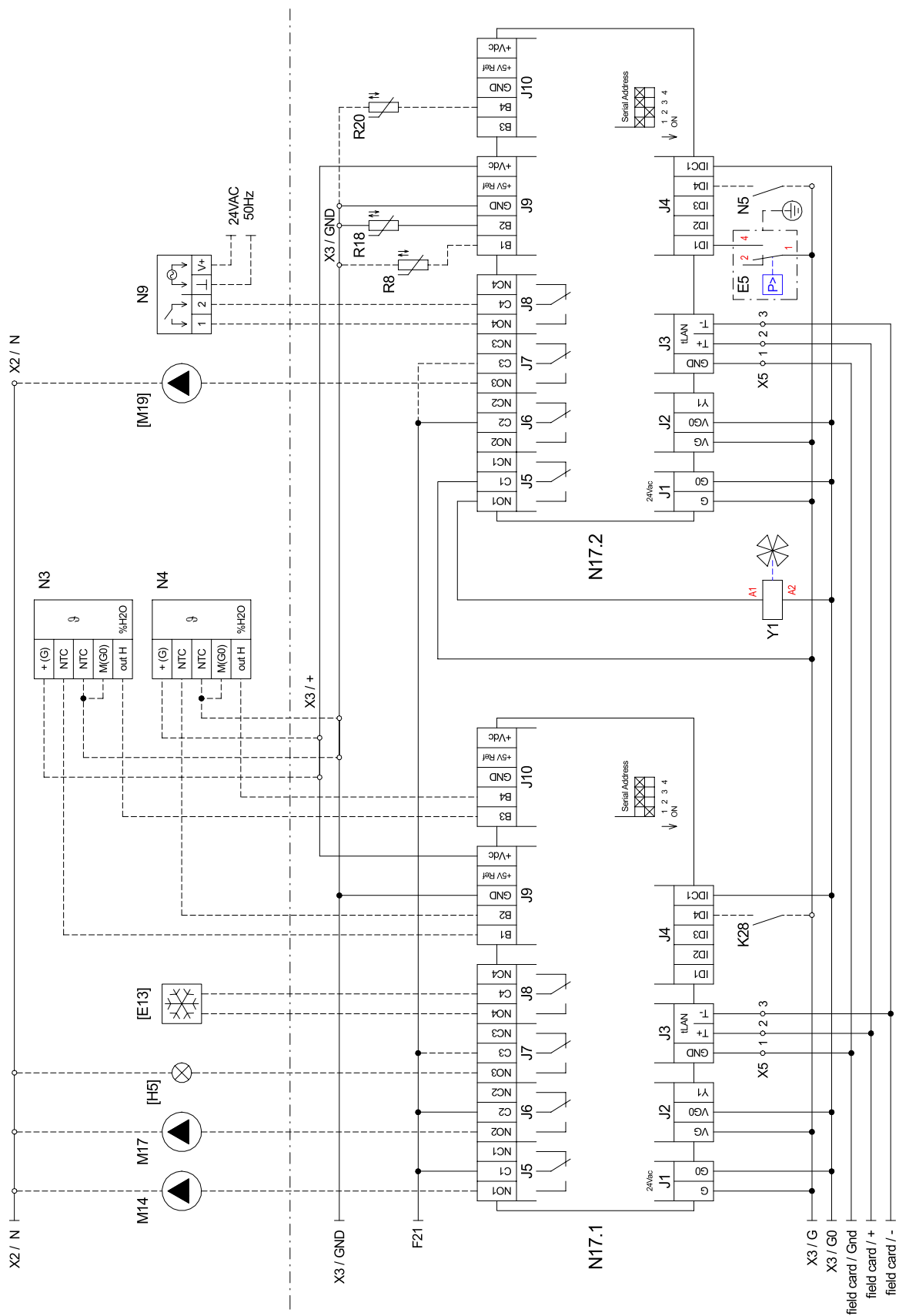




### 3.4 Anschlussplan Standardregler / Terminal diagram for standard controller / Schéma de branchement du régulateur standard



### 3.5 Anschlussplan Kühlregler / Terminal diagram for cooling controller / Schéma de branchement du régulateur de refroidissement



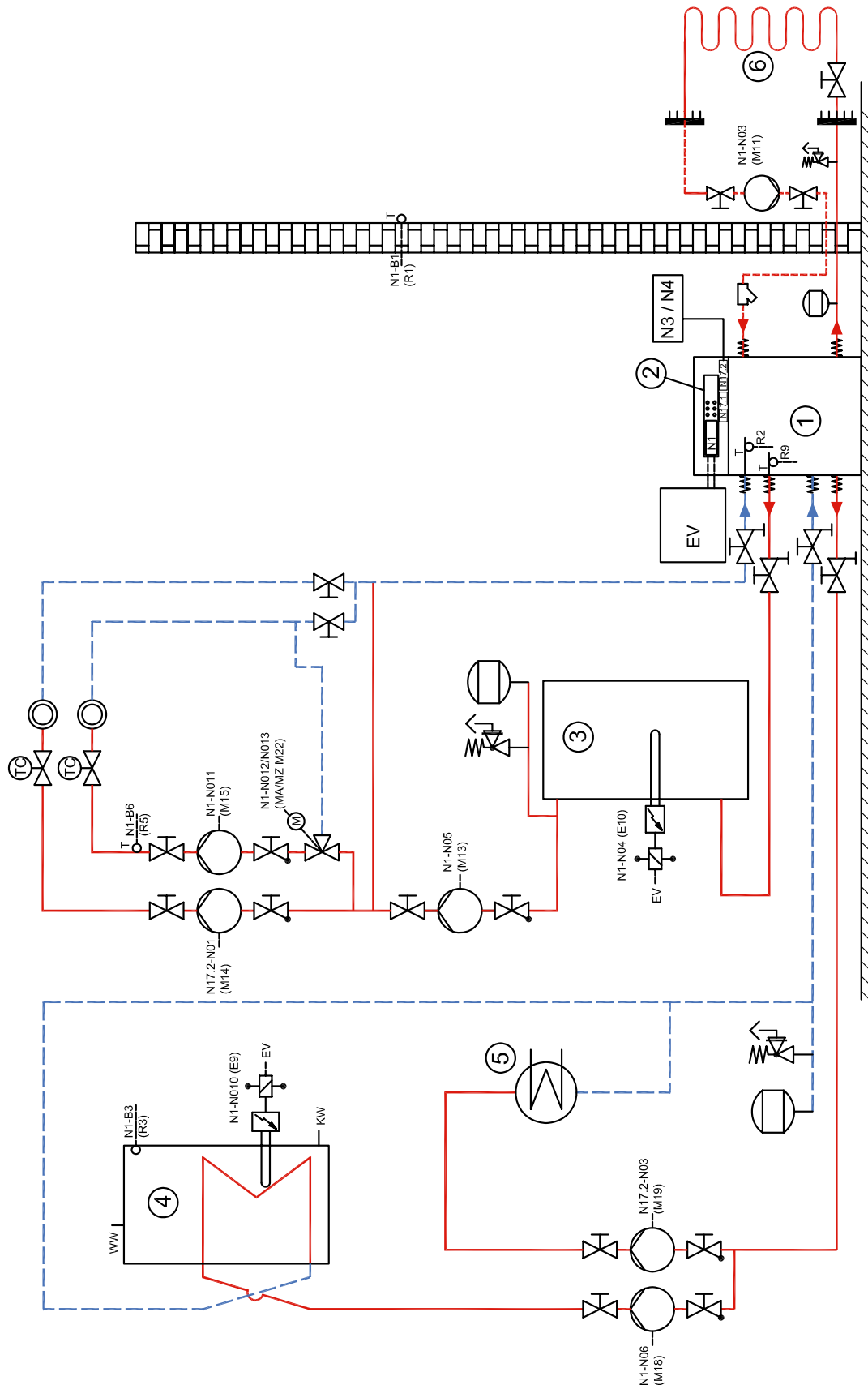
## 3.6 Legende / Legend / Légende

A1	Drahtbrücke, muss eingelegt werden, wenn kein Sperrschütz benötigt wird Kontakt offen = EVU-Sperre	Wire jumper, must be inserted if no blocking contactor is required Contact open - utility block (EVU)	Le cavalier à fil doit être inséré en absence de disjoncteur de blocage du fournisseur d'énergie Contact ouvert - blocage du fournisseur d'électricité
A2	Drahtbrücke, muss bei Verwendung des Sperreinganges entfernt werden Kontakt offen = WP gesperrt	Wire jumper, must be removed if the disable contactor is used Contact open - heat pump blocked	Cavalier à fil à retirer si la entrée de coupure est utilisée Contact ouvert - PAC bloquée
B2*	Pressostat Niederdruck-Sole	Low-pressure brine controller	Pressostat eau glycolée basse pression
B3*	Thermostat Warmwasser (alternativ zu R3)	Hot water thermostat (as an alternative to R3)	Thermostat eau chaude (alternative à R3)
B4*	Thermostat Schwimmbadwasser	Swimming pool water thermostat	Thermostat eau de piscine
E1	Ölsumpfheizung - M1	Oil sump heater - M1	Chauffage à carter d'huile - M1
E2	Ölsumpfheizung - M3	Oil sump heater - M3	Chauffage à carter d'huile - M3
E5	Pressostat Kondensationsdruck	Condensation pressure switch	Pressostat pression de condensation
E9*	Elektr. Tauchheizkörper Warmwasser	Electric immersion heater hot water	Thermoplongeur électr. eau chaude
E10*	2. Wärmeerzeuger (Heizkessel oder elektr. Heizstab - Funktion über Regler wählbar)	Heat generator 2 (boiler or electric heating element) - selectable via controller	2e générateur de chaleur (chaudière ou cartouche chauffante électrique) - réglable par le régulateur
[E13]*	2. Kälteerzeuger	Chiller 2	2e générateur de froid
F2	Lastsicherung für Steuerteil Wärmepumpe und Relaisausgänge N1-J12 / -13	Load fuse for control unit of heat pump and relay outputs N1-J12 / -13	Coupe-circuit de charge organe de commande de PAC et sorties de relais N1-J12 et 13
F3	Lastsicherung für Relaisausgänge N1-14 bis -18	Load fuse for relay outputs N1-14 to -18	Coupe-circuit de charge sorties de relais N1-14 à 18
F4	Pressostat Hochdruck	High-pressure controller	Pressostat haute pression
F5	Pressostat Niederdruck	Low-pressure controller	Pressostat basse pression
F10	Durchflussschalter (Kühlbetrieb)	Flow rate switch cooling operation	Commutateur de débit mode refroidissement
F21	Lastsicherung für Modul N17.1 und N17.2	Load fuse for modules N17.1 and N17.2	Coupe-circuit de charge modules N17.1 et N17.2
[H5]*	Leuchte Störferrnanzeige	Remote fault indicator lamp	Témoin de téléddtection de pannes
K1	Schütz M1	Contactor M1	Contacteur M1
K3	Schütz M3	Contactor M3	Contacteur M3
K5	Schütz M11	Contactor M11	Contacteur M11
K20*	Schütz E10	Contactor E10	Contacteur E10
K21*	Schütz E9	Contactor E9	Contacteur E9
K22*	EVU Sperrschütz	Utility blocking contactor	Contacteur de coupure de la société d'électricité
K23*	SPR Hilfsrelais	SPR auxiliary relay	Relais auxiliaire « SPR »
K28*	externe Umschaltung Betriebsart „Kühlen“	External switching to "cooling" mode	Commutation externe mode opératoire « rafraichissement »
M1	Verdichter 1	Compressor 1	Compresseur 1
M3	Verdichter 2	Compressor 2	Compresseur 2
M11*	Primärpumpe	Primary pump	Pompe primaire
M13*	Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
M14*	Heizungsumwälzpumpe 1. Heizkreis	Heat circulating pump of heating circuit 1	Circulateur de chauffage 1er circuit de chauffage
M15*	Heizungsumwälzpumpe 2. Heizkreis	Heat circulating pump of heating circuit 2	Circulateur de chauffage 2e circuit de chauffage
M16*	Zusatsumwälzpumpe	Auxiliary circulating pump	Circulateur supplémentaire
M17*	Kühlumwälzpumpe	Cooling circulating pump	Circulateur de rafraichissement
M18*	Warmwassersumwälzpumpe	Hot water circulating pump	Circulateur d'eau chaude
[M19]*	Schwimmbadwassersumwälzpumpe	Swimming pool water circulating pump	Circulateur d'eau de piscine
M21*	Mischer Hauptkreis	Mixer for main circuit	Mélangeur circuit principal
M22*	Mischer 2. Heizkreis	Mixer for heating circuit 2	Mélangeur 2e circuit de chauffage
N1	Heizungsregler	Heating controller	Régulateur de chauffage
N3*	Raumklima-Station 1	Room climate control station 1	Station de climatisation 1
N4*	Raumklima-Station 2	Room climate control station 2	Station de climatisation 2
N5*	Taupunktwächter	Dew point monitor	Contrôleur du point de condensation
N7	Sanftanlaufsteuerung M1	Soft start control M1	Commande de démarrage progressif M1
N8	Sanftanlaufsteuerung M3	Soft start control M3	Commande de démarrage progressif M3
N9*	Raumthermostat	Room thermostat	Thermostat de pièce
N14	Bedienteil	Control panel	Unité de commande
N17.1	Modul: Kühlung allgemein	Module: Cooling, general	Module Rafraichissement général
N17.2	Modul: Kühlung aktiv	Module: Cooling, active	Module Rafraichissement activé
Q1	Leistungsschutzschalter M11	Miniature circuit breaker M11	Disjoncteur M11
R1	Außenfühler	External sensor	Sonde extérieure
R2	Rücklauffühler	Return flow sensor	Sonde de retour
R3*	Warmwasserfühler (alternativ zum Warmwasserthermostat)	Hot water sensor (as an alternative to the hot water thermostat)	Sonde d'eau chaude (alternative au thermostat eau chaude)
R5*	Fühler für 2ten Heizkreis	Sensor for heating circuit 2	Sonde pour 2e circuit de chauffage
R6	Eingefrierschutzfühler (Sole)	Flow temperature limit sensor (brine)	Sonde antigel (eau glycolée)
R7	Kodierwiderstand	Coding resistor	Résistance de codage
R8	Frostschutzfühler Kühlen	Flow sensor, cooling	Sonde antigel refroidissement
R9	Frostschutzfühler Heizen	Flow sensor, heating	Sonde antigel chauffage
R13*	Fühler für 3. Heizkreis	Sensor for heating circuit 3	Sonde du 3ème circuit de chauffage
R18	Heißgasfühler	Hot gas sensor	Sonde de gaz chaud
R20*	Schwimmbadfühler	Swimming pool sensor	Sonde de piscine
T1	Transformator	Transformer	Transformateur











































X1	Klemmen Lastspannung	Load voltage terminals	Bornes tension de charge
X2	Klemmen Steuerspannung	Control voltage terminals	Bornes tension de commande
X3	Klemmen Kleinspannung	Extra-low voltage terminals	Bornes faible tension
X5	Klemmen tLAN	tLAN terminals	Bornes T LAN
X6	Klemmen Ölsumpheizung	Oil sump heater terminals	Bornes chauffage à carter d'huile
Y1	4-Wege-Umschaltventil	Four-way reversing valve	Soupape de commutation 4 voies
<b>Abkürzungen:</b>		<b>Abbreviations:</b>	<b>Abréviations :</b>
EVS	EVU-Sperreingang	Utility disable contactor	Entrée de coupure fournisseur d'énergie
SPR	Zusätzlicher Sperreingang	Supplementary disable contactor	Entrée de « coupure courant » complémentaire
MA	Mischer AUF	Mixer OPEN	Mélangeur OUVERT
MZ	Mischer ZU	Mixer CLOSED	Mélangeur FERME
*	Bauteile sind bauseits beizustellen, bzw. als Zubehör erhältlich	Components to be supplied by the customer, available as accessories	Pièces fournies par le client (disponibles comme accessoires)
[ ]	Flexible Beschaltung – siehe Vorkonfiguration (Änderung nur durch Kundendienst)	Flexible circuitry - see pre-configuration (changes by after-sale service)	Connexion modulable - cf. pré-configuration (seul le SAV est autorisé à réaliser des modifications)
—	werksseitig verdrahtet	Wired ready for use	câblé départ usine
- - - - -	bauseits bei Bedarf anzuschließen	To be connected by the customer as required	à raccorder par le client au besoin

## 4 Hydraulisches Prinzipschema / Hydraulic block diagrams / Schéma hydraulique

### 4.1 Darstellung / Schematic view / Représentation schématique



## 4.2 Legende / Legend / Légende

	Rückschlagventil	Check valve	Clapet anti-retour
	Absperrventil	Shutoff valve	Robinet d'arrêt
	Schmutzfänger	Dirt trap	Collecteur d'impuretés
	Dreiwegemischer	Three-way mixer	Mélangeur 3 voies
	Umwälzpumpe	Circulating pump	Circulateur
	Ausdehnungsgefäß	Expansion vessel	Vase d'expansion
	Raumtemperaturgesteuertes Ventil	Room temperature-controlled valve	Vanne commandée par température ambiante
	Absperrventil mit Rückschlagventil	Shutoff valve with check valve	Robinet d'arrêt avec clapet anti-retour
	Absperrventil mit Entwässerung	Shutoff valve with drainage	Robinet d'arrêt avec écoulement
	Sicherheitsventilkombination	Safety valve combination	Groupe de valves de sécurité
	Wärmeverbraucher	Heat consumer	Consommateur de chaleur
	Temperaturfühler	Temperature sensor	Sonde de température
	Flexibler Anschlusschlauch	Flexible connection hose	Tuyau de raccord flexible
	Wärmepumpe	Heat pump	Pompe à chaleur
	Wärmepumpenmanager	Heat pump manager	Gestionnaire de pompe à chaleur
	Pufferspeicher	Buffer tank	Réservoir tampon
	Warmwasserspeicher	Hot water cylinder	Ballon d'eau chaude
	Schwimmbadwärmetauscher	Swimming pool heat exchanger	Échangeur thermique de piscine
	Wärmequelle	Heat source	Source de chaleur
	E9 Tauchheizkörper Warmwasser	Immersion heater hot water	Résistance électrique eau chaude
	E10 2ter Wärmeerzeuger	2nd heat generator	2ème générateur de chaleur
	M11 Primärumwälzpumpe	Primary circulating pump	Circulateur primaire
	M13 Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
	M14 Umwälzpumpe für Heiz- und Kühlbetrieb (elektronisch geregelt)	Circulating pump for heating and cooling operation (electronically regulated)	Circulateur pour mode chauffage et refroidissement (à régulation électronique)
	M15 Heizungsumwälzpumpe 2ter Heizkreis (elektronisch geregelt)	Heat circulating pump for heating circuit 2 (electronically regulated)	Circulateur du 2ème circuit de chauffage (à régulation électronique)
	M18 Warmwasserumwälzpumpe	Hot water circulating pump	Circulateur d'eau chaude
	M19 Schwimmbadpumpe	Swimming pool pump	Pompe de piscine
	M22 Mischer 2. Heizkreis	Mixer for heating circuit 2	Mélangeur 2e circuit de chauffage
	N1 Heizungsregler	Heating controller	Régulateur de chauffage
	N17.1 Modul Kühlung allgemein	General cooling module	Module Rafraîchissement général
	M17.2 Modul Kühlung aktiv	Active cooling module	Module Rafraîchissement activé
	N3/N4 Raumklimastation	Room Climate Control Station	Station de climatisation de pièce
	R1 Außenwandfühler	External wall sensor	Sonde de paroi extérieure
	R2 Rücklauffühler (integriert)	Return flow sensor (integral)	Sonde de retour (intégrée)
	R3 Warmwasserfühler	Hot water sensor	Sonde d'eau chaude
	R5 Rücklauffühler 2. Heizkreis	Return flow sensor for heating circuit 2	Sonde sur retour du 2ème circuit de chauffage
	R9 Vorlauffühler	Flow sensor	Sonde sur départ
	EV Elektroverteilung	Electrical distribution system	Distributeur courant électrique
	KW Kaltwasser	Cold water	Eau froide
	MA Mischer AUF - 2ter Heizkreis	Mixer OPEN - heating circuit 2	Vanne mélangeuse OUVRETE - 2ème circuit de chauffage
	MZ Mischer ZU - 2ter Heizkreis	Mixer CLOSED - heating circuit 2	Vanne mélangeuse FERMÉE - 2ème circuit de chauffage
	WW Warmwasser	Hot water	Eau chaude

## 5 Konformitätserklärung / Declaration of Conformity / Déclaration de conformité



### EG - Konformitätserklärung EC Declaration of Conformity Déclaration de conformité CE



Der Unterzeichnete  
The undersigned  
La société soussignée,

**Glen Dimplex Deutschland GmbH**  
**Geschäftsbereich Dimplex**  
**Am Goldenen Feld 18**  
**D - 95326 Kulmbach**

bestätigt, dass das (die) nachfolgend be-  
zeichnete(n) Gerät(e) aufgrund seiner (ihrer)  
Konzipierung und Bauart sowie in der von  
uns in Verkehr gebrachten Ausführung den  
einschlägigen grundlegenden Anforderungen  
der EG-Richtlinien entspricht (entsprechen).

hereby confirm that the design and con-  
struction of the product(s) listed below,  
in the version(s) placed on the market by  
us, conform to the relevant requirements  
of the applicable EC directives.

This declaration becomes invalidated  
if any modifications are made to  
the product(s) without our prior  
authorisation.

certifie que l'appareil / les appareils ci-  
après, par leur conception et leur mode de  
construction ainsi que par la définition  
technique avec laquelle il(s) sont mis en  
circulation par notre société, est / sont  
conforme(s) aux directives fondamentales  
CEE afférentes.

Ce certificat perd sa validité pour tout  
appareil modifié sans notre consentement.

Bei einer nicht mit uns abgestimmten  
Änderung des (der) Gerät(e)s verliert  
diese Erklärung ihre Gültigkeit.

#### Bezeichnung / Designation / Désignation

**Sole/Wasser-Wärmepumpen**  
für Innenaufstellung mit R404A

**Brine-to-water heat pumps**  
for indoor installation, containing R404A

**Pompes à chaleur eau glycolée/eau**  
pour installation intérieure avec R404A

#### EG - Richtlinien / EC Directives / Directives CEE

EG- Niederspannungsrichtlinie / EC Low Voltage Directive /  
Directive CEE relative à la basse tension (2006/95/EG)

EG-EMV-Richtlinie / EC EMC Directive / Directive CEE  
relative à la compatibilité électromagnétique (2004/108/EG)

Druckgeräterichtlinie / Pressure Equipment Directive /  
Directive CEE relative aux appareils sous pression (97/23/EG)

#### Typ(e):

#### Harmonisierte EN / Harmonized EB Standards / Normes EN harmonisées:

**SI 30TER+**

EN 255:1997  
EN 378:2000  
DIN 8901

DIN EN 60335-1 (VDE 0700 T1):2007-02

DIN EN 60335-2-40 (VDE 0700 T40):2006-11

DIN EN 55014-1 (VDE 0875 T14-1):2003-09

DIN EN 55014-2 (VDE 0875 T14-2):2002-08

DIN EN 61000-3-2 (VDE 0838-2):2006-10

DIN EN 61000-3-3 (VDE 0838-3):2006-06

EN 60335-1:2002+A11+A1+A12+  
Corr.+A2:2006

EN 60335-2-40:2003+A11+A12+A1+Corr.:2006

EN 55014-1:2000+A1:2001+A2:2002

EN 55014-2:1997+A1:2001

EN 61000-3-2:2006

EN 61000-3-3:1995+A1:2001+A2:2005

#### Nationale Richtlinien / National Directives / Directives nationales

D  
BGR 500

A

CH  
SVTI

Kulmbach, 01.10.2007

CE09W01L.doc

  
Wolfgang Weinhold  
Geschäftsführer / Managing Director

  
Andreas Tich  
Spartenleiter / Head of business unit





